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EXAMINER	
LEE, JINHEE J	

ART UNIT	PAPER NUMBER
2174	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/822,444	BERAN ET AL.	
	Examiner	Art Unit	
	Jinhee J. Lee	2174	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1204, 0404*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1-31 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-31 are directed to a computer implemented method of calculation where the inputs are numbers and the results are also numbers. Claims 20-23 are directed to a computer program stored in a computer readable storage medium for implementing the method. In order for a claimed invention that is directed to such a computer implemented method of calculation, or a computer program stored in a computer readable storage for implementing a computation to be statutory, the claimed invention must accomplish a practical application. That is the claimed invention must transform an article or physical object to a different state or thing, or produce a useful, concrete and tangible result. State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. Also see "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility", OG Notices: 22 November 2005. It is clear from claims 1-31 that the claims merely involve calculations and manipulations of data in performing computations. The claimed invention does not result in a physical transformation. The inputs are numbers and the outputs are also numbers. The result of the invention is merely numerical values without a practical application recited in the claims. It is not real world result, and thus is not useful, concrete and tangible. Therefore, the claimed

invention is directed to non-statutory subject matter as the claims fail to assert a practical application to the invention.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang et al. (5627979).

Re claim 1, Chang et al. discloses a method of constructing a representation of an object having at least one property, the method comprising:

identifying at least one property group associated with the object which has been chosen to represent the object (employee 1910 group, see figure 19 for example), at least one property of the object belonging to each property group associated with the object (Salary Employee 1920 and regular employee 1930, see figure 19 for example) ;

identifying any other object that the object references within a property of an identified property group (mapping person class into employee table, see figure 16 for example);

retrieving data corresponding to each of the properties belonging to the at least one property group (user clicks on the Select Tables item 1120 which displays a listbox to select the Employee table, see column 13 lines 26-28 for example); and

representing the object using the retrieved data (representation for accessing objects from a data store, see column 6 line 15 for example).

Re claim 2, Chang et al. discloses a method, wherein the step of representing the object further comprises visually representing the object by displaying the retrieved data (using Smart Schema, see column 5 lines 35-38 and column 7 lines 17-20 for example).

Re claim 3, Chang et al. discloses a method, wherein the step of displaying the retrieved data further comprises displaying names of properties belonging to the at least one property group adjacent values of those properties (see figures 16 and 19 for example).

Re claim 4, Chang et al. discloses a method, wherein displaying names of properties belonging to the at least one property group further comprises displaying a name of each property group adjacent the names of the properties belonging to that property group and adjacent the values of those properties (see figures 16 and 19 for example).

Re claim 5, Chang et al. discloses a method, wherein representing the object using the retrieved data further comprises representing the object using its own property groups and the ones of its parent (see figure 25 and column 16 lines 18-25 for example).

Re claim 6, Chang et al. discloses a method, wherein at least one object inheritance hierarchy exist between the object and the other identified objects, and wherein each property group is unique to a particular object inheritance hierarchy (see column 16 lines 18-25 for example).

Re claim 7, Chang et al. discloses a method, wherein the object is a specialization of a second object, and wherein the object inherits the property groups associated with the second object (see figures 19 and 24 for example).

Re claim 8, Chang et al. discloses a method, wherein for each property group, properties belonging to the property group include at least one property of the object and one or more properties of only one other object (see figure 24 for example).

Re claim 9, Chang et al. discloses a method, wherein for at least one property group, the step of retrieving data corresponding to each of the properties belonging to the property group further comprises retrieving the data corresponding to properties of the object and to properties of the only one other object associated with the property group (see figures 19, 24 and 25 for example).

Re claim 10, Chang et al. discloses a method, wherein identifying the at least one property group associated with the object further comprises identifying a default property group associated with the object (see column 16 lines 2-6 for example).

Re claim 11, Chang et al. discloses a method of constructing representations of objects each having at least one property, the method comprising: associating property groups with objects in a data base, each property group associated with an object including at least one property of the object; storing the property groups in the database;

and for each of a plurality of objects in the database, specifying which property groups are to be used in representing the object (see figure 19 and abstract for example).

Re claim 12, Chang et al. discloses a method, wherein object inheritance hierarchies exist between some of the plurality of objects in the database, wherein the step of associating property groups with objects further comprises associating property groups with objects such that each property group is unique to a particular object inheritance hierarchy (see column 16 lines 20-30 for example).

Re claim 13, Chang et al. discloses a method, wherein the step of associating property groups with objects in the data base further comprises associating property groups with objects in the database such that at least one of the property groups is associated with two objects such that properties of the two objects belong to the property group (see figure 19, 24 and 25 for example).

Re claim 14, Chang et al. discloses a method, and for constructing a representation of a particular object having at least one property, the method further comprising: identifying at least one property group associated with the object which has been chosen to represent the object, at least one property of the object belonging to each property group associated with the object; identifying any other object that the object references within a property of an identified property group; retrieving data corresponding to each of the properties belonging to the at least one property group; and representing the object using the retrieved data (see figures 16, 19 and abstract for example).

Re claim 15, Chang et al. discloses a method, wherein the step of representing the object further comprises visually representing the object by displaying the retrieved data (see column 5 lines 35-38, column 7 lines 12-20 for example).

Re claim 16, Chang et al. discloses a method, wherein the step of displaying the retrieved data further comprises displaying names of properties belonging to the at least one property group adjacent values of those properties (see figures 16 and 19 for example).

Re claim 17, Chang et al. discloses a method, wherein displaying names of properties belonging to the at least one property group further comprises displaying a name of each property group adjacent the names of the properties belonging to that property group and adjacent the values of those properties (see figures 16 and 19 for example).

Re claim 18, Chang et al. discloses a method, wherein at least one object inheritance hierarchy exist between the object and the other identified objects (see column 16 lines 18-25 for example).

Re claim 19, Chang et al. discloses a method, wherein the object is a specialization of a second object, and wherein the object inherits the property groups associated with the second object (see figures 19 and 24 for example).

Re claim 20, Chang et al. discloses a method, wherein for each property group, properties belonging to the property group include at least one property of the object and one or more properties of only one other object (see figure 24 for example).

Re claim 21, Chang et al. discloses a method, wherein for at least one property group, the step of retrieving data corresponding to each of the properties belonging to the property group further comprises retrieving the data corresponding to properties of the object and to properties of the only one other object associated with the property group (see figures 19, 24 and 25 for example).

Re claim 22, Chang et al. discloses an object representation system for constructing a representation of an object having at least one property, the system comprising: an object database storing data for populating instances of the object; an object definition database storing object definition data which defines properties of the object, and storing at least one property group associated with the object; and an object representation engine coupled to the object database and to the object definition database, the engine configured to generate a representation of the object using at least one property group stored in the object definition database (see figures 16, 19 and abstract for example).

Re claim 23, Chang et al. discloses a system, wherein the engine is configured to generate the representation of the object by implementing the steps comprising: identifying at least one property group associated with the object which has been chosen to represent the object, at least one property of the object belonging to each property group associated with the object; identifying any other object that the object references within a property of an identified property group; retrieving data corresponding to each of the properties belonging to the at least one property group;

and representing the object using the retrieved data (see figures 16 and 19 for example).

Re claim 24, Chang et al. discloses a system, wherein the step of representing the object further comprises visually representing the object by displaying the retrieved data (see column 5 lines 35-38, column 7 lines 17-20 for example).

Re claim 25, Chang et al. discloses a system, wherein the step of displaying the retrieved data further comprises displaying names of properties belonging to the at least one property group adjacent values of those properties (see figures 16 and 19 for example).

Re claim 26, Chang et al. discloses a system, wherein displaying names of properties belonging to the at least one property group further comprises displaying a name of each property group adjacent the names of the properties belonging to that property group and adjacent the values of those properties (see figures 16 and 19 for example).

Re claim 27, Chang et al. discloses a system, wherein at least one object inheritance hierarchy exist between the object and the other identified objects, and wherein each property group is unique to a particular object inheritance hierarchy (see column 16 lines 18-25 for example).

Re claim 28, Chang et al. discloses a system, wherein the object is a specialization of a second object, and wherein the object inherits the property groups associated with the second object (see figures 19 and 24 for example).

Re claim 29, Chang et al. discloses a system, wherein for each property group, properties belonging to the property group include at least one property of the object and one or more properties of only one other object (see figures 24 for example).

Re claim 30, Chang et al. discloses a system, wherein for at least one property group, the step of retrieving data corresponding to each of the properties belonging to the property group further comprises retrieving the data corresponding to properties of the object and to properties of the only one other object associated with the property group (see figures 19, 24 and 25 for example).

Re claim 31, Chang et al. discloses a system, wherein identifying the at least one property group associated with the object further comprises identifying a default property group associated with the object (see column 16 lines 2-6 for example).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jinhee J. Lee whose telephone number is 571-272-1977. The examiner can normally be reached on M- F at 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine Kincaid can be reached on 571-272-2100 ext. 74. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jinhee J Lee
Primary Examiner
Art Unit 2174

jjl